

=> d.bib ab 116 131 151 152 172

L27 ANSWER 116 OF 173 BIOSIS COPYRIGHT 2001 BIOSIS

AN 1993:393383 BIOSIS

DN PREV199396068683

TI A new **amino acid** racemase with threonine alpha-**epimerase** activity from *Pseudomonas putida*: Purification and characterization.

AU Lim, Young-Hee; Yokoigawa, Kumio; Esaki, Nobuyoshi; Soda, Kenji (1)

CS (1) Inst. Chem. Res., Kyoto Univ., Uji, Kyoto-Fu 611 Japan

SO Journal of Bacteriology, (1993) Vol. 175, No. 13, pp. 4213-4217.
ISSN: 0021-9193.

DT Article

LA English

AB We have found that *Pseudomonas putida* ATCC 17642 cells grown in a medium containing D-threonine as the sole nitrogen source produce an enzyme that catalyzes epimerization of threonine. Proton nuclear magnetic resonance analysis of the enzyme reaction in deuterium oxide clearly showed epimerization from L- to D-allo-threonine and also from D- to L-allo-threonine. This is the first example of an enzyme that was clearly shown to epimerize threonine. The enzyme has been purified to

homogeneity,

which was shown by polyacrylamide gel electrophoresis. The enzyme has a molecular weight of about 82,000 and consists of two subunits identical

in

molecular weight (about 41,000). The enzyme contains 1 mol of pyridoxal 5'-phosphate per mol of subunit as a cofactor, and its absorption

spectrum

exhibits absorption maxima at 280 and 420 nm. The enzyme catalyzes not only epimerization of threonine by stereoconversion at the alpha position but also racemization of various **amino acids**, except acidic and aromatic **amino acids**. The enzyme is similar to **amino acid** racemase with low substrate specificity (EC 5.1.1.10) in enzymological properties but is distinct from it in the action on threonine.

L27 ANSWER 131 OF 173 BIOSIS COPYRIGHT 2001 BIOSIS

AN 1992:176135 BIOSIS

DN BR42:81135

TI PLP-DEPENDENT AND INDEPENDENT **AMINO ACID** RACEMASES.

AU SODA K

CS LAB. MICROBIAL BIOCHEM., INST. CHEM. RESEARCH, KYOTO UNIV., UJI, KYOTO 611, JPN.

SO FUKUI, T., ET AL. (ED.). INTERNATIONAL UNION OF BIOCHEMISTRY SYMPOSIUM, 199. ENZYMES DEPENDENT ON PYRIDOXAL PHOSPHATE AND OTHER CARBONYL

COMPOUNDS

AS COFACTORS; 8TH INTERNATIONAL SYMPOSIUM ON VITAMIN B6 AND CARBONYL CATALYSIS, OSAKA, JAPAN, OCTOBER 15-19, 1990. XVIII+656P. PERGAMON PRESS: OXFORD, ENGLAND, UK; NEW YORK, NEW YORK, USA. ILLUS. (1991) 0 (0),

29-34.

ISBN: 0-08-040820-6.

DT Conference

FS BR; OLD

LA English

L27 ANSWER 151 OF 173 BIOSIS COPYRIGHT 2001 BIOSIS

AN 1990:289780 BIOSIS

=> d his

(FILE 'HOME' ENTERED AT 16:40:15 ON 26 MAR 2001)

FILE 'BIOSIS' ENTERED AT 16:40:27 ON 26 MAR 2001

L1	2905 S ARTHROBACTER
L2	18700 S KLEBSIELLA
L3	13203 S RHIZOBIUM
L4	0 S SACCHAROPOLYSOPORA
L5	357 S SACCHAROPOLYSPORA
L6	34837 S L1 OR L2 OR L3 OR L5
L7	1753 S EPIMERASE OR RACEMASE
L8	62 S EPIMERIZE OR RACEMIZE OR RACEMISE
L9	2075 S EPIMER#
L10	2136 S L8 OR L9
L11	3867 S L10 OR L7
L12	44 S L6 AND L11
L13	199 S ALANINE RACEMASE
L14	4 S L6 AND L13
L15	19055 S L2 OR L5
L16	251596 S AMINO ACID
L17	771 S L15 AND L16
L18	1800 S RACEMASE# OR EPIMERASE#
L19	8 S L17 AND L18

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COST IN U.S. DOLLARS

FULL ESTIMATED COST

SINCE FILE
ENTRY
35.23

TOTAL
SESSION
35.38

SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 16:56:15 ON 26 MAR 2001

TI HYDROXY PROLINE 2 **EPIMERASE** OF PSEUDOMONAS ACTIVE SITE PEPTIDES.
AU ZERVOS C; ADAMS F
SO MOL CELL BIOCHEM, (1975) 8 (2), 113-122.
CODEN: MCBIB8. ISSN: 0300-8177.
FS BA; OLD
LA Unavailable

L15 ANSWER 2 OF 4 CA COPYRIGHT 2001 ACS
 AN 109:50529 CA
 TI Pyridoxal 5'-phosphate-independent amino acid racemase
 AU Nakajima, Nobuyoshi; Soda, Kenji
 CS Okayama Junior Coll., Okayama, Japan
 SO Kagaku to Kyoiku (1988), 43(3), 212-3
 CODEN: KAKYEEY
 DT Journal; General Review
 LA Japanese
 AB A review, with 26 refs., on glutamate racemase prepn. and its application to **D-amino acid** synthesis. Reaction mechanisms of coenzyme-independent amino acid racemase and **epimerase** are also discussed.
 CC 7-0 (Enzymes)
 Section cross-reference(s): 9
 ST review amino acid racemase; glutamate racemase pyridoxal phosphate independent review; amino acid prepn glutamate racemase review
 IT Amino acids, preparation
 RL: PREP (Preparation)
 (D-, enzymic, with glutamate racemase)
 IT 9024-08-2P, Glutamate racemase
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (pyridoxal phosphate-independent, purifn. and application to **D-amino acid** prepn. and reaction mechanism of)